

# A NEW SPIDER SPECIES OF THE GENUS *CHEIRACANTHIUM* (ARANEAE, MITURGIDAE) FROM GUANGXI, CHINA

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**Abstract** A new species of the spider family Miturgidae, *Cheiracanthium inflatum* sp. nov., collected from Guangxi of China, is recognized, described and illustrated.

**Key words** Araneae, Miturgidae, *Cheiracanthium*, new species.

## 1 Introduction

The long-legged sac spiders of the genus *Cheiracanthium* are medium-sized, with a pale yellowish body and having long and slender legs. They mainly hunt small arthropods for food on the vegetation at night and hide in chambers or silken tube retreats made of foliage during the day. Ramírez *et al.* transferred *Cheiracanthium* from Clubionidae to the family Miturgidae in 1997. Placing *Cheiracanthium* in the family Miturgidae was followed by Platnick (2012), but the taxonomic status of *Cheiracanthium* is still in debate (Deeleman-Reinhold, 2001; Ono, 2009).

The genus *Cheiracanthium* are particularly species-rich and widely distributed worldwide, especially from the tropical and subtropical regions of Asia, Africa, Europe and Australia. Up to the present, about 183 species have been recorded (Platnick, 2012). Previously, 31 species of *Cheiracanthium* have been described from China, including five species were recorded from Taiwan (Song *et al.*, 1999; Platnick, 2012; Chen & Huang, 2004; Chen *et al.*, 2006).

Recently, while examining the specimens collected from Damingshan National Natural Reserve, located in Guangxi Zhuang Autonomous Region, South China, we found a *Cheiracanthium* species and recognized it as new to science.

## 2 Materials and Methods

All measurements are given in millimeters. Carapace length was measured from the anterior margin to the posterior margin of the carapace medially. Total length is the sum of carapace and abdomen length, regardless of the petiolus. The measurements of the legs are given as follows: total length (femur, patella, tibia, metatarsus, tarsus). All specimens are preserved in 75 % alcohol and were

examined and drawn under a Nikon SMZ1500 stereomicroscope equipped with an Abbe drawing device. Photographs were taken using the Leica M205A. Epigyne was cleared in warm solution of potassium hydroxide (KOH), transferred to alcohol and temporarily mounted for drawing. All specimens examined in this study are deposited in the Museum of Hebei University (MHBUE), Baoding, China.

Abbreviations using in the next: ALE, anterior lateral eyes; AME, anterior median eyes; AME-ALE, distance between AME and ALE; AME-AME, distance between AME; MOA, median ocular area; PLE, posterior lateral eyes; PME, posterior median eyes; PME-PLE, distance between PME and PLE; PME-PME, distance between PME.

## 3 Taxonomy

### Miturgidae Simon, 1886

*Cheiracanthium* C. L. Koch, 1839

### *Cheiracanthium inflatum* sp. nov. (Figs 1–14)

Holotype ♂, China, Guangxi Zhuang Autonomous Region, Damingshan National Natural Reserve, Huansha Falls, 23 May 2011, WANG Ying-Nan leg. Paratypes: 1 ♀, 1 ♂, same data as holotype, PENG Yan-Qiu leg; 1 ♂, Longteng Hotel, 29 May 2011, WANG Ying-Nan leg.

**Etymology.** The specific name derived from the Latin word “*inflatum*”, referring to the inflated bulb; adjective.

**Diagnosis.** Among the congeners, this new species is similar to *C. brevispinum* Song *et al.*, 1982; *C. insulanum* (Thorell, 1878) and *C. pennyi* O. P. - Cambridge, 1873 in the appearance and structure of palpal organ, but can be distinguished from the latter by: 1) male bulb of the new species with a short thorn-shaped median apophysis (Figs 4, 10); while

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Figs 1–2. *Cheiracanthium inflatum* sp. nov., dorsal view. 1. Male, holotype. 2. Female, paratype. Scale bars = 2 mm.

sickle-shaped in *C. brevispinum* (Song *et al.*, 1999: 422, Figs E–F); bandlet-shaped in *C. insulanum* (Zhu and Zhang, 2011: 340, Fig. 245) and long hook-shaped in *C. pennyi* (Song *et al.*, 1999: 422, Figs O–P); 2) epigynum of the new species with a pair of inverted pyriform spermathecae (Figs 8, 14), while sac-shaped in *C. brevispinum* (Song *et al.*, 1999: 420, Figs G–H), ball-shaped in *C. insulanum* (Zhu and Zhang, 2011: 340, Fig. 245) and hemispherical in *C. pennyi* (Song *et al.*, 1999: 421, Figs E–F).

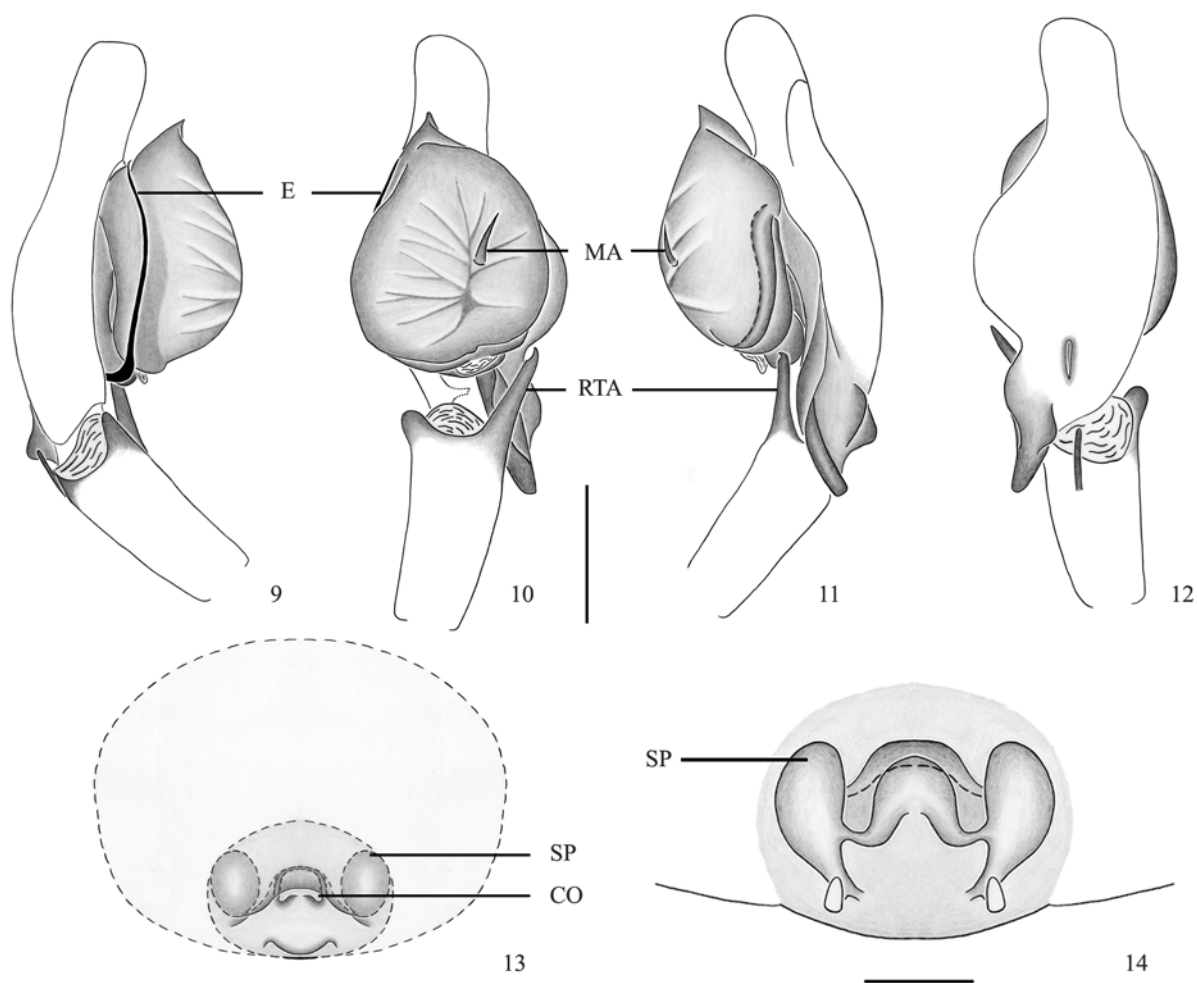
**Description.** Male (holotype) total length 7.65: prosoma 3.42 long, 2.60 wide; opisthosoma 4.28 long, 2.04 wide. Carapace (Fig. 1) pale yellow. Cephalic region raise inconspicuous, cervical groove and radial groove indistinct, fovea longitudinal. Clypeus height 0.10. Anterior eyes row slightly

recurved, posterior eyes row straight; ALE and PLE projecting. Eye diameters: AME 0.18, ALE 0.18, PME 0.13, PLE 0.15; AME-AME 0.15, AME-ALE 0.20, PME-PME 0.23, PME-PLE 0.25. MOA trapezoidal, wider than long (0.50/0.35), wider in back than in front (0.50/0.45). Chelicerae yellowish brown, fang furrow with 3 promarginal and 3 retromarginal teeth. Sternum yellowish, longer than wide. Legs pale yellow. Leg measurements: I 23.25 (5.61 + 1.53 + 6.32 + 7.55 + 2.24), II 15.00 (3.77 + 1.33 + 3.77 + 4.80 + 1.33), III 11.11 (2.75 + 1.12 + 2.55 + 3.67 + 1.02), IV 15.40 (4.28 + 1.33 + 3.47 + 5.10 + 1.22). Leg formula: 1-4-2-3. Opisthosoma longer than wide, gray dorsally, dorsum with two pairs of obvious muscle impressions. Pedipalpal tibia with a retrolateral





Figs 3 – 8. *Cheiracanthium inflatum* sp. nov. 3 – 6. Male left palp. 7. Epigynum. 8. Vulva. 3. Prolateral view. 4, 7. Ventral view. 5. Retrolateral view. 6, 8. Dorsal view. Scale bars; 3 – 6 = 0.5 mm, 7 – 8 = 0.2 mm.



Figs 9–14. *Cheiracanthium inflatum* sp. nov. 9–12. Male left palp. 13. Epigynum. 14. Vulva. 9. Prolateral view. 10, 13. Ventral view. 11. Retrolateral view. 12, 14. Dorsal view. CO. Copulatory openings. E. Embolus. MA. Median apophysis. RTA. Retrolateral tibial apophysis. SP. Spermatheca. Scale bars: 9–12 = 0.5 mm, 13–14 = 0.2 mm.

finger-shaped apophysis; bulb inflated, with indistinct stripes and a short thorn-shaped median apophysis, embolus long and thin, distal end spiculate (Figs 3–6, 9–12).

Female (One of paratypes). Total length 8.87; prosoma 3.32 long, 2.60 wide; opisthosoma 5.51 long, 3.32 wide. Carapace (Fig. 2) yellowish brown. Cervical groove and radial grooves inconspicuous. Clypeal height 0.13. AME 0.18, ALE 0.18, PME 0.18, PLE 0.18; AME-AME 0.25, AME-ALE 0.33, PME-PME 0.35, PME-PLE 0.38. MOA trapezoidal, wider than long (0.68/0.48), narrower in front than in back (0.58/0.68). Chelicerae brown, with 3 promarginal and 3 retromarginal teeth. Sternum yellowish, longer than wide. Legs light yellow. Leg measurements: I 15.61 (4.28 + 0.82 + 4.39 + 4.39 + 1.73), II 10.00 (2.86 + 1.22 + 2.35 + 2.65 + 0.92), III 7.45 (2.04 + 1.02 + 1.53 + 2.04 + 0.82), IV 11.83 (3.26 + 1.22 + 2.86 + 3.47 + 1.02). Leg formula: 1-4-2-3. Opisthosoma (Fig. 2) longer than

wide, yellowish brown, with irregular white spots; dorsum with two pairs of obvious muscle impressions, venter yellow. Epigynum with an anterior hood sub-medially; copulatory openings located under it, copulatory ducts short and thick, connected to the inside near middle of spermathecae; spermathecae pyriform (Figs 7–8, 13–14).

Distribution. China (Guangxi).

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## 中国红螯蛛属一新种 (蜘蛛目, 米图蛛科)

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**摘 要** 记述中国米图蛛科红螯蛛属 1 新种, 膨胀红螯蛛 *Cheiracanthium inflatum* sp. nov., 模式标本保存在河北大学博物馆。

**膨胀红螯蛛, 新种 *Cheiracanthium inflatum* sp. nov.** (图 1 ~ 14)

正模♂, 广西大明山自然保护区浣纱瀑布, 2011 年 5 月 23 日, 王英楠采。副模: 1♀, 1♂, 广西大明山自然保护区浣纱瀑布, 2011 年 5 月 23 日, 彭艳秋采; 1♂, 广西大明山自然保护区龙腾宾馆附近, 2011 年 5 月 29 日, 王英楠采。

新种与短刺红螯蛛 *C. brevispinum* Song et al., 1982, 岛红

螯蛛 *C. insulanum* (Thorell, 1878) 和彭妮红螯蛛 *C. pennyi* O. P. -Cambridge, 1873 近似, 但与后者的区别为: 1) 新种雄蛛中突较短呈刺状, 而短刺红螯蛛中突较长且中央弯曲呈镰刀状, 岛红螯蛛中突呈扁带状, 彭妮红螯蛛中突较长呈钩状; 2) 新种雌蛛的纳精囊呈倒梨形, 而短刺红螯蛛纳精囊略长呈肾形, 岛红螯蛛纳精囊为球形, 而彭妮红螯蛛纳精囊呈半球状。

分布: 中国广西。

词源: 新种种名源自拉丁词 “*inflatum*”, 指其膨胀的生殖球, 形容词。

**关键词** 蜘蛛目, 米图蛛科, 红螯蛛属, 新种。

中图分类号 Q959.226

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